

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior listings in the application:

Listing of Claims:

1. (Previously Presented): A process of fabricating a microstructure having a vacuum cavity, comprising the following steps:

- a) producing, in the thickness of a first silicon wafer, a porous silicon region intended to format at least a part of one wall of the cavity and capable of absorbing residual gases in the cavity;
- b) joining the first silicon wafer to a second wafer, so as to produce the cavity; and
- c) annealing between 400°C and 1000°C, the microstructure obtained after step b) so as to strengthen the bond.

2. (Previously Presented): The process as claimed in claim 1, wherein step a) furthermore includes a step of impregnating the porous silicon region with another material that can also absorb residual gases in the cavity.

3. (Previously Presented): The process as claimed in claim 1, wherein when the cavity has a predetermined height, the joining operation of step b) is carried out by means of an intermediate wafer whose thickness contributes to the height of the cavity.

4. (Previously Presented): The process as claimed in claim 1, wherein prior to step b), the process includes a step of carrying out a physico-chemical preparation of the surfaces of the wafers used in step b).

5. (Previously Presented): The process as claimed in claim 1, wherein prior to step b), the process includes a step of outgassing the wafers used in step b).

6. (Previously Presented): The process as claimed in claim 1, wherein the joining operation of step b) is carried out under vacuum.

7. (Previously Presented): The process as claimed in claim 6, wherein the joining operation is carried out by bonding at ambient temperature.

8. (Canceled):

9. (Previously Presented): The process as claimed in claim 2, wherein the other material that can also absorb the residual gases in the cavity consists of titanium.

10. (Previously Presented): The process as claimed in claim 1, wherein the second wafer and/or the intermediate wafer are made of silicon or glass.

11. (Previously Presented): The process as claimed in claim 1, wherein the process is applied collectively to several microstructures.

12. (Withdrawn): A microstructure, fabricated by a process as claimed in claim 1, having a vacuum cavity, comprising:

at least two wafers that contribute to bounding the cavity, the first wafer of said two wafers, is made of silicon and includes a porous silicon region capable of absorbing residual gases in the cavity, the region being produced in the thickness of said silicon wafer.

13. (Withdrawn): The microstructure as claimed in claim 12, wherein the porous silicon region is impregnated with another material that can also absorb residual gases in the cavity.

14. (Withdrawn): The microstructure as claimed in claim 13, wherein the other material that can also absorb residual gases in the cavity is titanium.

15. (Withdrawn): The microstructure as claimed in claim 12, wherein the wafers other than the first wafer are made of silicon or glass, or a combination of silicon and glass.

16. (Withdrawn): The microstructure as claimed in claim 12, wherein said microstructure includes a resonator housed in the cavity.

17. (Withdrawn): A sensor having a microstructure as claimed in claim 12.

18. (Withdrawn): The sensor as claimed in claim 17, wherein the sensor is a resonant pressure sensor or a resonator accelerometer or a vibrating gyroscope or an electromechanical filter.

19. (Currently Amended) The process as claimed in claim 6, wherein the joining is carried out by ~~braying~~ brazing.

20. (Previously Presented) The process of claim 1, wherein during said annealing step, the porous silicon region is activated allowing a surface of the porous silicon layer to be cleaned by desorption of H molecules present after production of the porous silicon region.

21. (Previously Presented) The process of claim 7, wherein during said annealing step, the porous silicon region is activated allowing a surface of the porous silicon layer to be cleaned by desorption of H molecules present after production of the porous silicon region.